Open Source Software

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Product Description

Open Source Software Open-Source Software (OSS) has fundamentally transformed the modern technological landscape, becoming the backbone of computing by driving innovation, collaboration, and democratizing access to powerful tools. Open Source Software is a comprehensive guide designed to equip both seasoned developers and newcomers with the theoretical and practical knowledge needed to thrive in the open-source ecosystem. The book starts with an in-depth exploration of the legal landscape, clarifying complex topics such as copyright, patents, and licensing (including GPL, MIT, and Apache) to ensure legal compliance in open-source projects.The technical journey delves into the foundational tools, including the indispensable GNU/Linux operating system and its core utilities, compilers, and linkers. It masters open-source programming techniques such as version control (Git), code reviews, and effective development toolchains. Ultimately, this text empowers you to contribute to and leverage OSS systems, transforming you from a user into a vital participant in the global open collaboration movement.**Salient Features:**

- **Legal and Licensing Mastery**: Comprehensive coverage of Intellectual Property (IP) Rights and the core concepts of Free Software (the four freedoms). Detailed analysis of copyleft licenses (GPL, AGPL) versus permissive licenses (MIT, Apache, BSD).
- **GNU/Linux System Essentials**: Installation and configuration of GNU/Linux distributions, including mastering basic shell commands for file/directory management.
- **Server Configuration**: Practical instruction on setting up and managing open-source Email (Postfix), Web (Apache), File (NFS), and Proxy Services.
- **Programming and Debugging Tools**: Deep understanding of GNU LIBC Libraries, Compilers, and Linkers, along with powerful tools for Memory Debugging/Profiling (Mpatrol and Valgrind).
- **Scripting and Automation**: Hands-on introduction to Bash, SED, and AWK scripting for system automation and data manipulation.
- **GUI Application Development**: Introduction to cross-platform GUI Programming using open-source frameworks like Qt and GTK+, including techniques for Localization.
- **FOSS Philosophy and Trends**: Examination of the FOSS philosophy and trends, including its global and Indian adoption and potential.

Table of Contents

- Overview Of Free/Open Source Software
- Linux
- Open Source Tools and Technologies for Hardware and E-Mail server
- Understanding GNU LIBC Libraries, compilers and linker
- Open-source Programming Techniques

Exercise

Author

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